

Date: Wed, 25 May 94 04:30:46 PDT
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #134
To: Ham-Space

Ham-Space Digest Wed, 25 May 94 Volume 94 : Issue 134

Today's Topics:

 * SpaceNews 23-May-94 *
 Gear for starting satellite station
 Interested in starting w/ Sat
 International Space Development Conference
 LUSAT-1 (LO-19): Actual status
 Skinny Dip

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Tue, 24 May 1994 07:55:09 MDT
From: ihnp4.ucsd.edu!usc!math.ohio-state.edu!cyber2.cyberstore.ca!nntp.cs.ubc.ca!
alberta!ve6mgs!usenet@network.ucsd.edu
Subject: * SpaceNews 23-May-94 *
To: ham-space@ucsd.edu

Hi folks.

Sorry if this is a dupe, but I've been having a lot of trouble with mail
lately.

73, de John, KD2BD

SB NEWS @ AMSAT \$SPC0523
* SpaceNews 23-May-94 *

BID: \$SPC0523

=====
SpaceNews
=====

MONDAY MAY 23, 1994

SpaceNews originates at KD2BD in Wall Township, New Jersey, USA. It is published every week and is made available for unlimited distribution.

* LUSAT-1 CRASH RECOVERY UNDERWAY *

=====

On 16-May-94 while LU1JBR and other stations were operating LUSAT-1 (LO-19), the satellite's downlink vanished, a result of an on-board computer crash. By 17-May-94, LUSAT-1 command station (operated by Norberto Pennini, LU8DYF), successfully reset the satellite.

Norberto will start a series of deep tests and studies in order to find the origin of the crash. Reloading of operating software will follow the study. Please note that the satellite will not be operational for regular users for the next 7 to 30 day period.

LUSAT-OSCAR-19 controllers would like to thank LU8DYF and other stations who, in a way or another, collaborated and made this operation a success, including: LU6DYD, LU7AKC, LU7DSU, LU8ENU, LU4AGC, LU1EXC, LU2BDT, LW1EE0 and LU3AGY.

[Info via Eduardo Sweet, LU7AKC]

* AMSAT CALL FOR PAPERS *

=====

Share your experience with the amateur satellite community at the 1994 AMSAT-NA Annual Meeting and Space Symposium scheduled for 07-Oct-94 through 09-Oct-94 in Orlando, Florida. Come help celebrate AMSAT's 25 year presence in Space. Your help is needed to make this meeting a success.

Papers for this meeting are sought. Editing, formatting, graphics and even typing can be provided if required. Prepare a paper and advance your reputation among others involved in the Amateur Satellite program! Even if you cannot attend the meeting, consider a paper for publication.

Topics for all amateur satellite disciplines are sought. Author and Title requested ASAP. Compose a short abstract by July 1. Final drafts are requested on or about August 26.

Direct inputs and inquiries to:

Steve Park - WB9OEP

12122 99th Ave. N.

Seminole, FL 34642

Phone: (813) 391-7515

Internet: SKPA@QMGATE.ECI-ESYST.COM

Amateur Packet Radio: WB9OEP @ W4DPH#TPA.FL.EL870W

Join us in Orlando, Florida for the fun and festivities!

[Info via Steve Park, WB9OEP]

* CLEMENTINE FAILURE *

=====

After successfully completing a mission using advanced ballistic missile defense technologies to map the entire surface of the moon, the Ballistic Missile Defense Organization's Clementine satellite suffered an on-board malfunction at 9:39 AM EST on 07-May-94. The likely result of this malfunction will be to prevent Clementine from performing the planned close fly by of the near-Earth asteroid Geographos in August 1994, and for the satellite to point its cameras and sensors.

Preliminary analysis has traced the cause of the malfunction to the on-board computer which controls most of the satellite's systems including the attitude control thrusters. The computer activated several thrusters during a 20 minute telemetry interrupt with the ground station, thus depleting all the fuel in the Attitude Control System (ACS) tanks. It has not been determined as yet whether the fault was in the computer software or in the computer's electronic chips. The primary processor on the computer is a radiation hardened Military Standard 1750A computer, which is not experimental technology.

Clementine's mission control center in Alexandria, VA. is continuously monitoring the satellite. It has been determined that all instruments and systems are continuing to function well with the exception of the ACS.

Although it may be difficult to Clementine to make the close fly by of the asteroid, the satellite will continue to perform its intended military mission to test 23 advanced technologies. The Clementine engineering team is examining several mission options which would continue to yield useful data. Since January 25, 1994, Clementine's cameras have recorded over 1.5 million images including the topographical surface of the moon. Analyzing

this data, including results of the search for the existence of ice on the lunar surface, will continue to occupy scientists for many years.

The Clementine project is managed by BMDO, built by the Naval Research Laboratory, and its instruments constructed by industry and the Lawrence Livermore Laboratory. It has been a landmark project since it demonstrates that small, highly capable satellites can be built and launched for under \$100 million and in less than two years, using advanced miniaturized technology and a streamlined management approach.

[Info via Richard H. Buenneke Jr.]

★ DISCOVERY OF ASTEROID MOON ★

=====

NASA's space probe Galileo has discovered what is probably the first known moon of an asteroid. Since Galileo passed the asteroid, Ida, on August 28, 1993, the probe has continued to send back images and data from the near infrared mapping spectrometer. Because of the great distance at which the probe is from Earth, downloading this data will continue for months to come.

The Galileo Project Scientist, announced on March 3, 1994, the discovery of a "blip" consisting of more than a few pixels visible in data from both the solid-state imaging system and the spectrometer.

Based on simultaneous observation, a natural moon may be in orbit around Ida. If so, this would be the first satellite of an asteroid to be discovered.

More information will be forthcoming soon from NASA, along with the first images of this possibly new moon orbiting Ida.

[Info via Dave, N9JUW]

★ ECLIPSE IMAGE AVAILABLE VIA FTP ★

=====

A collection of images taken of the 10-May-94 annular solar eclipse have been assembled into a single file and is available via anonymous FTP at: <ftp://uleth.ca> (IP # 142.66.3.29). The image is called "eclipse.gif" and is located in the "pub/solar/Images" directory at this site. The frame contains 24 high-quality images taken by the Big Bear Solar Observatory. All but three are full-disk hydrogen-alpha and Ca II K images, giving excellent views of existing features visible on the Sun (regions of enhanced plage, filaments, etc). The other three images are high-resolution close-up images of the Sun showing craters and mountain ranges against the background of the solar surface. "eclipse.gif" is a

large 1500 x 1297 x 256 image that will make good use of large high-resolution monitors.

The folks at the BBS0 did a great job capturing these images, and deserve a nice pat on the back for covering the event so well.

"eclipse.gif" is in a semi-permanent state. That is, it will not be removed from the FTP disk for a few months.

[Info via Cary Oler]

* RS-10 NEWS *

=====

VE3CIQ in Canada reports that RS-10 is working quite well in Mode A. In one Atlantic pass, he made contact with FG5GI from Guadeloupe Island, ON2ATB from Belgium, and N1MCT from Maine, USA using 25 watts of transmitter power. VE3CIQ reports he can hear himself with only 5 watts.

[Info via VE3CIQ]

* SpaceNews IN SPANISH *

=====

Pedro Jose, EA4ADD in Spain is translating SpaceNews issues into the Spanish language and circulating the translated issues throughout the LATNET (Latin America) and the EA (Spanish) packet radio networks.

My thanks to EA4ADD for taking the time to translate SpaceNews into Spanish.

* THANKS! *

=====

Thanks to all those who sent messages of appreciation to SpaceNews, especially:

ON1AOT VK2XCI VE3CIQ EA4ADD N6UVY WB9OEP W0XK

* FEEDBACK/INPUT WELCOMED *

=====

Mail to SpaceNews should be directed to the editor (John, KD2BD) via any of the following paths:

FAX : 1-908-747-7107
PACKET : KD2BD @ N2KZH.NJ.USA.NA
INTERNET : kd2bd@ka2qhd.de.com -or- kd2bd@amsat.org

MAIL : John A. Magliacane, KD2BD
Department of Engineering and Technology
Advanced Technology Center
Brookdale Community College
Lincroft, New Jersey 07738
U.S.A.

<<= SpaceNews: The first amateur newsletter read in space! -=>>

/EX

--

John A. Magliacane, KD2BD * /\ * Voice : 1-908-224-2948
Advanced Technology Center |/\| Packet : KD2BD @ N2KZH.NJ.USA.NA
Brookdale Community College |/\| Internet: kd2bd@ka2qhd.de.com
Lincroft, NJ 07738 * \/\ * Morse : -. -.. ..--- -... -..

Date: Tue, 24 May 94 09:00:18 -0400
From: psinnntp!wlnntp.psi.com!usenet@uunet.uu.net
Subject: Gear for starting satellite station
To: ham-space@ucsd.edu

Here are two approaches for starting a satellite station based on my experience of the past few years. Perhaps the most important beginning point is reading The Satellite Experimenter's Handbook (TSEH) from the ARRL.

1. Digital satellite reception, spacecraft telemetry

If you are mostly interested in receiving information from digital satellites, you can easily begin with DOVE (DO-17). The gear needed for DOVE will also allow you to receive SAREX, Mir, and AO-21 transmissions. Transmitting to the Shuttle or Mir is possible if you don't mind odd hours or if you invest in a beam antenna (see "You, too, can contact space!" by Michael Bass N7WLC/5 in the May/June 1993 issue of The AMSAT Journal).

The three components you need are a 2m FM transceiver, a 2m antenna, and a packet terminal node controller or TNC. I started off with an HT (Kenwood TH-27A, about \$300 new), but any decent 2m FM rig will work. Start with an omnidirectional antenna such as a quarter-wave ground plane. You can build one (see TSEH for details) or buy one such as the MFJ-1740 for about \$13. My first TNC was a PacComm HandiPacket portable, but any VHF TNC such as the MFJ-1270 (about \$120) is fine. Of course, you need a computer to use with the TNC.

DOVE transmits packet telemetry and messages on 145.825 MHz. You can also receive traffic from the Mir packet mailbox on 145.55 MHz. In recent years, the cosmonauts haven't been using voice much, but you're suitably equipped if they do. The Shuttle sometimes carries SAREX (Shuttle Amateur Radio Experiment) and can transmit packet or voice on 145.55 MHz. In addition to its FM repeater and digital voice downlinks, AO-21 has been transmitting some packet telemetry on 145.987 MHz recently. Finally, you can also work terrestrial packet and 2m voice for repeaters and nets.

If your long-term goal is to work the Pacsats, you can plan ahead for 9600 bps FSK operations. Some of the new FM rigs have 9600 bps modem connectors so you don't have to perform surgery on the radio. You can buy a PacComm TNC with the 9600 bps modem installed for a bit over \$200, not too much more than the cost of a TNC. The versatile DSP boxes cost much more (over \$500), but offer capabilities to work many digital modes including 9600 bps FSK.

2. Analog (voice and CW) operation

If you are mostly interested in speaking to or exchanging CW with other hams, try RS-10 Mode A and/or RS-12 Mode K. For more details, see my article "Getting Started with RS-10" in the August 1993 QST or the article by Robert Capon WA3ULH "Working Satellite RS-12..." in the February 1994 QST.

For reception of either satellite, any HF or 10m rig will work. I have a used Uniden HR-2600, but you can still buy them new for \$200. A 10m dipole antenna works well--build your own or buy one (about \$20). To transmit to RS-10, you need a 2m rig with CW and USB modes. These rigs are not as common as FM rigs and cost a bit more. My Kenwood TR-751A cost about \$600 new. To transmit to RS-12, you need to use the 15m band. The RS-12 transponder input lies in the Advanced/Extra class subbands, so make sure you have the privileges before you transmit.

The RS-10 CW beacon at 29.357 MHz is strong. The RS-12 CW beacon is also strong at 29.408 MHz. Operation on these satellites is full duplex (you hear yourself from the satellite), so headphones are necessary. If you have a 2m multimode rig like I do, you can work other non-satellite modes: 10m voice or CW, 2m FM voice for nets and repeaters, 2m terrestrial packet with a TNC, and terrestrial 2m SSB or CW weak-signal operation.

The addition of a 70cm antenna (\$60 for a small yagi) and a 70cm-to-10m downconverter (about \$100) will turn a Mode A station into a Mode JA station.

The only satellite currently operating JA is FO-20, but Phase 3D will likely spend some time in this mode. The addition of a PSK modem (about \$200) and TNC (\$120) brings Mode JD capability for the 1200 bps Pacsats. Alternatives include the combined PacComm TNC/PSK modem (about \$270) or a DSP box.

73, Walt KE3HP

Date: 24 May 1994 17:05:06 -0400
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!
howland.reston.ans.net!usenet.ins.cwru.edu!ns.mcs.kent.edu!kira.cc.uakron.edu!
malgudi.oar.net!news.pipeline.com!not-for-mail@network
Subject: Interested in starting w/ Sat
To: ham-space@ucsd.edu

Hey everyone. Since HF is in the pits now, I'm thinking about getting into satellites, since the VHF in my area (New York City) stinks, and my all band dipole is on the ground (no 40 or 80 meters) which leaves me with my 3 element tri-bander. I've been playing with RS-12, since it's the only one I know of right now that is an all-HF bird. The only problem is that even on a direct pass, the most I can get is 17 or so minutes, and only 13 or so are decent. I would like to start with the SSB and CW VHF/UHF birds. I have the following questions:

1. What rig should I look into getting? I'm thinking about the new Icom all-mode 2m/440 (Can't remember model #...it was in the latest QST) Any hints?

2. Antenna wise, any ideas? I have a tri-band Yagi on the roof now on a regular mid-sized rotor. I was thinking about getting so moderate sized 2m/440 yagis, but what kind? Should I invest in an alt/az rotor...that is a big investment in both time and money, since I'd have to put another tower up on the roof...What kind of antennas should I look for?

Anyway, that's just the beginning. Any helpful information would be greatly appreciated! Thanks...

Noah AA2KT
blaknite@pipeline.com

Date: Tue, 24 May 1994 14:17:23 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!torn!newshub.ccs.yorku.ca!ists!
eol.ists.ca!white@network.ucsd.edu
Subject: International Space Development Conference
To: ham-space@ucsd.edu

Dear Space Enthusiast:

I would like to take this opportunity to invite you to attend the International Space Development Conference, the National Space Society's 13th annual conference, which will be held in Toronto from May 26 to 30, 1994 at the Regal Constellation Hotel. Attendance is anticipated at 500-1000.

This is a four day conference where space experts from industry, governments, the general public, professional organizations, and educators come to see and share the latest in space projects and plans. Much of the focus of the conference is on the more speculative aspects of long term space travel and the human "outward urge" which will propel our species to the planets and to the stars. Apollo astronaut Buzz Aldrin; Roland Dore, President of the Canadian Space Agency; Bob MacDonald, host of CBC's Quirks and Quarks, as well as Canadian astronauts Ken Money, Mike McKay, and Chris Hatfield are keynote speakers.

ISDC94 features talks on space medicine, education, and technology, an art show, a special Kids Conference, Internet Friday, and Rocket Workshops.

Registration is \$90 USA/ \$110 CDN at the door; the student and senior rate is \$30US/ 35 CDN.

The day pass rate is 1/3 door rate.

ISDC hotel rates are: \$ 87 CDN/ 67 US for a single or double room, and \$97.00 CDN for triple/quad occupancy.

Hotel reservations can be made by calling: (416) 675-1500 or toll free at 1-800-268-4838.

For further information on ISDC94, you can contact one of the organizers listed below:

Paul Swift	(416) 695-3343	pswift@caisu.ists.ca
Christine Marton	(416) 699-0591	marton5@vrg.utoronto.ca
Wayne Sincarsin	(416) 889-0327	
Chris Coggon	(416) 665-5413	coggon@ists.ists.ca

Christine Marton
Micronet
marton5@vrg.utoronto.ca
tel: 416-978-1638

Date: 24 May 94 15:24:30 GMT
From: news-mail-gateway@ucsd.edu
Subject: LUSAT-1 (LO-19): Actual status
To: ham-space@ucsd.edu

Official LUSAT-1 Status Report

The satelllite LUSAT-1 seems healthy. The software load was intentionally stopped when the second module was just loaded and turned on.

The next step will be to continue with the satelllite's deep tests.

The satelllite is sending telemetry on 437.125 MHz and it's digipeater is turned on.

Overseas stations: If you capture any LUSAT-1 telemetry and send it in raw-mode to the satelllite control station, you'll receive a certificate for your collaboration. These telemetry reports can be sent either via packet radio to LU8DYF@LU8DYF.BA.ARG.SOAM and LU8DYF@ANY-ACTIVE-SATELLITE, or via Internet to: lu8dyf@asarin.org.ar

If you intend to use the satelllite, please remember that the BBS is NOT LOADED and it will NOT be operational for the next 3 weeks (approx.).

We want to thanks LU8DYF and all the other stations that helped in the LUSAT-1 recovery: LU1DBC, LU1EXC, LU1FYZ, LU2BDT, LU2FHE, LU3AGY, LU4AGC, LU4FIO, LU6DYD, LU7ABF, LU7AKC, LU7DSU, LU7XAC, LU8ENU and LW1EE0.

73's de Eduardo Sweet, LU7AKC (LUSAT-1 recovery team)
packet: lu7akc@lu7akc.#col.cf.arg.soam
e-mail: lu7akc@asarin.org.ar

Date: 24 May 1994 04:42:42 -0400
From: ihnp4.ucsd.edu!swrinde!gatech!usenet.ufl.edu!usenet.cis.ufl.edu!
anshar.shadow.net!anshar.shadow.net!nobody@network.ucsd.edu
Subject: Skinny Dip
To: ham-space@ucsd.edu

```
öyyyyyyö yy öyy ÄyyÄ öyyyyyyö öyyyyyyö yy yy yyyyyyyö ÄyyÄ yyyyyyyö
yyööööö yyöyy· yy yy yy yy yy yyö öyy yy yy yy yyöööyy
·····yy yy·yyö yy yy yy yy yy ·yyy· yy yy yy yy····
·yyyyy· yy ·yy ÄyyÄ yy yy yy yy ÄyÄ yyyyyy· ÄyyÄ yy
```

*** THIGH CREAM ***

The ORIGINAL thigh cream, as seen on national TV
This is the NEW, SUPER STRENGTH formula
Accept none of the imitation creams
YOU'RE WORTH THE BEST!!!

Now only \$29.95 per bottle which INCLUDES shipping, handling and tax
U.S. orders only, please. Rush check or money order to:

U.S. Health Inc.
18524 NW 67th Ave. #311
Miami, Florida 33015

End of Ham-Space Digest V94 #134
